

CLAIMS

1. A high-frequency module including a wiring pattern formed in an organic insulative layer and a plurality of conductive parts forming passive elements and distributed parameter elements, which transmit a high-frequency signal,
each of the conductive parts being formed correspondingly to an area of the organic insulative layer where no woven glass fabric is laid.
2. The high-frequency module according to claim 1, wherein each of the conductive parts is covered with a ground layer formed on the organic insulative layer to form a strip structure or a micro-strip structure.
3. The high-frequency module according to claim 1, wherein the passive elements are an inductor and capacitor, resistor formed with the thin film technology.
4. The high-frequency module according to claim 1, wherein the organic insulative layer is formed from among liquid crystal polymer, benzocyclobutene, polyimide, polynorbornene, polyphenylether, polytetrafluoroethylene, bismaleimide-triazine, which is low in specific inductive capacity and loss, or any one of these organic materials having a ceramic powder dispersed therein.
5. A high-frequency module comprising:
a base substrate block having formed on a main side of an organic substrate a plurality of wiring layers each including an organic insulative layer and a wiring pattern and having at least the uppermost one of the wiring layers layer flattened to

form a buildup surface; and

an elements block having formed in the organic insulative layer formed on the main side of the buildup surface of the base substrate block a wiring pattern and a plurality of conductive parts forming passive elements and distributed parameter elements, which transmit a high-frequency signal,

each of the conductive parts of the elements block is formed correspondingly to an area of the organic insulative layer where no woven glass fabric is laid.

6. The high-frequency module according to claim 5, wherein the base substrate block has a ground pattern in a portion of the organic insulative layer corresponding to the conductive parts and no woven glass fabric is laid at least between the ground pattern and conductive parts.

7. The high-frequency module according to claim 5, wherein being shielded by a ground pattern formed on the organic insulative layer to enclose the perimeters of the conductive parts, the latter form together a strip structure or a micro-strip structure.

8. The high-frequency module according to claim 5, wherein the wiring layers in the base substrate block have no woven glass fabric formed in portions thereof opposite to areas where the conductive parts are formed.

9. The high-frequency module according to claim 5, wherein the passive elements are an inductor and capacitor, resistor formed with the thin film technology.

10. The high-frequency module according to claim 5, wherein the organic substrate and organic insulative layer are formed from among liquid crystal polymer,

benzocyclobutene, polyimide, polynorbornen, polyphenylether, polytetrafluoroethylene, bismaleimide-triazine, which is low in specific inductive capacity and loss, or any one of these organic materials having a ceramic powder dispersed therein.

11. A method of producing a high-frequency module, comprising the steps of forming a base substrate block and an elements block, respectively,

in the base substrate block forming step, there is formed, on a main side of an organic substrate, a plurality of wiring layers each including an organic insulative layer and a predetermined wiring pattern, and a buildup surface is formed by flattening at the uppermost one of the wiring layers; and

in the elements block forming step, there is formed, in the organic insulative layer formed on the buildup surface of the base substrate block, a wiring pattern and a plurality of conductive parts forming passive elements and distributed parameter elements, which transmit a high-frequency signal,

each of the conductive parts of the elements block being formed correspondingly to an area of the organic substrate where no woven glass fabric is laid.

12. The method according to claim 11, wherein the base substrate block forming step, a ground pattern is formed in a portion of the organic insulative layer corresponding to the conductive parts and no woven glass fabric is laid at least between the ground pattern and conductive parts.

13. The method according to claim 11, wherein:

in the base substrate and element forming layer forming steps, a ground pattern is formed on the organic insulative layer to enclose the perimeters of the conductive parts; and

being shielded by the ground pattern, the conductive parts form together a strip structure or a micro-strip structure.

14. The method according to claim 11, wherein the wiring layers in the base substrate block have no woven glass fabric formed in portions thereof opposite to areas where the conductive parts are formed.

15. The method according to claim 11, wherein the organic substrate and organic insulative layer are formed from among liquid crystal polymer, benzocyclobutene, polyimide, polynorbornen, polyphenylether, polytetrafluoroethylene, bismaleimide-triazine, which is low in specific inductive capacity and loss, or any one of these organic materials having a ceramic powder dispersed therein.